# USB Multi-I/O Test & Simulation
## for MIL-STD-1553/ARINC 429/ARINC 717

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## Product Brief

BU-67103U

BU-67X02U

BU-67211U

Reliable and easy-to-use, DDC's USB Multi-I/O Test and Simulation Hardware series provides you with the right solution for interfacing to MIL-STD-1553, ARINC 429, ARINC 717, CANbus, Serial I/O, and/or Discrete I/O interfaces.

## Features:

| Features: | BU-67211U | BU-67X02U | BU-67103U |
|---|---|---|---|
| Rack Mountable Option | ✔ | | |
| Standard Twinax MIL-STD-1553 Rugged Connectors on Hardware | ✔ | ✔ | ✔ |
| USB Bus Powered | | ✔ | ✔ |
| Extended Temperature Range | | ✔ | |
| Multi-Function BC+Multi-RT+MT per Ch | ✔ | ✔ | |
| SF = BC/MT or Multi-RT/MT per Ch<br>MF = BC + Multi-R/T + MT per Ch | MF (2 Ch) | SF (2 Ch)<br>MF (1 Ch) | SF (2 Ch) |
| 1553/429 Bus Playback from Stored Monitor File | ✔ | ✔ | ✔ |
| Digital & Avionics (+35V) Discrete I/O and Triggering | ✔ | | |
| Real Time Intermessage Event/Data Modification | ✔ | ✔ | |
| Error Injection | ✔ | ✔ | |
| Variable 1553 Voltage | ✔ | | |
| Advanced 1553 Error Sampling at 50 nS | ✔ | ✔ | ✔ |
| Programmable Direct or Transformer 1553 Coupling | ✔ | | |
| Programmable Tx/Rx ARINC 429 Ch. | ✔ | | |
| Programmable Tx/Rx ARINC 717 Ch. | ✔ | | |
| CANbus 2.0 | ✔ | | |
| Programmable RS-232/422/485 | ✔ | | |
| IRIG-B Input | ✔ | ✔ | ✔ |
| IRIG-B Output | ✔ | | |

## Benefits:

- Simplify Form Factor Selection Process with a simple USB 2.0 interface, Enabling Connection Anywhere USB Ports are Present.
- Variety of Devices
  - Ruggedized Compact Portable Units
  - Powerful Test and Simulation Units
- Standard Twinax Connectors for Quick 1553 Bus Hookup
- Save Time and Reduce Costs:
  - Common Software API for both DDC Test and Embedded Products for Rapid Prototyping with Less Programming Time
  - Program in Minutes with Automated Application Source Code Generation

## Applications:

- New Product Development
- System Troubleshooting
- Portable Testers
- Flight Line Diagnostics
- Flight Testing
- Software Development
- Systems Integration Labs
- Simulators
- Production Test Stands
- Automated Test Applications

**For more information:** www.ddc-web.com/USB

## Technical Data

- 1553 Bus Monitor (MT)
  - IRIG-106 Chapter 10 Compatibility
  - Filter Based on RT Address, T/R bit, Sub-Address
  - Advanced Bit Level Error Detection to Isolate Bus Failures
  - DMA Engine for Ultra Low CPU Utilization
- 1553 Remote Terminal (RT)
  - Emulate up to 31 RT Addresses Simultaneously
  - Multiple Buffering Techniques
  - Programmable Command Illegalization
  - Programmable Busy by Sub-address

- 1553 Bus Controller (BC)
  - Streaming and Minor/Major Frame Scheduling of Messages
  - High and Low Priority Asynchronous Message Insertion
  - Modify Messages or Data while BC is running
- ARINC 429
  - High/Low Speed 429 Operation
  - FIFO or Mailbox Reception
  - FIFO, FIFO Block, or Scheduled Rate Transmission
  - Asynchronous Message Insertion
  - Label/SDI Filtering

## Ordering Information

| Model Number | 1553 Ch. | 429 Ch. Rx | 429 Ch. Tx | 717 Ch. | Digital Discrete I/O | Avionics Discrete I/O | Serial I/O | CANbus | Temperature Range |
|---|---|---|---|---|---|---|---|---|---|
| BU-67102U000-CA0 | — | 4 | 2 | — | 8 | — | — | — | -40°C to +71°C |
| BU-67102U100-CA0 | 1 SF | 0 | 0 | — | 8 | — | — | — | |
| BU-67102U200-CA0 | 2 SF | 4 | 2 | — | 8 | — | — | — | |
| BU-67202U100-CA0 | 1 MF | 0 | 0 | — | 8 | — | — | — | |
| BU-67103U000-JL0 | — | 4 | 2 | — | 8 | — | — | — | 0°C to +55°C |
| BU-67103U100-JL0 | 1 SF | 0 | 0 | — | 8 | — | — | — | |
| BU-67103U200-JL0 | 2 SF | 4 | 2 | — | 8 | — | — | — | |
| BU-67211U000R-JL0 | — | 8 | | 2 | 2 | 2 | 0 | 2 | |
| BU-67211U200R-JL0 | 2 MF | 8 | | 2 | 2 | 2 | 4 | 2 | |

Notes: All USBs include IRIG-B input, BU-67211Ux also includes IRIG-B output.
  SF = BC or Multi-RT with concurrent Bus Monitor per 1553 channel
  MF = BC and Multi-RT with concurrent Bus Monitor per 1553 channel

**Included Software:**
- 1553 and 429 Software Development Kits (SDKs)
- Windows XP/Vista/7 and Linux

Contact factory for latest software compatibility with each model.

**Included Accessories:**
For all versions:
- USB Cable
- AC Power Adapter
- D-Connectors and Shells

X02U version also includes:
- 5 Cable Ties
- 1 Cable Tie Screw and Washer

**Optional Accessories:**
For the X02U version only:
- Mounting Bracket - "U" bracket with mounting holes - P/N 5507-5606-0010
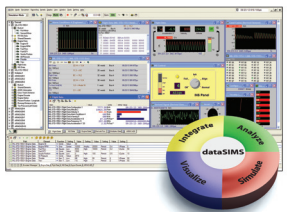
## Optional Software:

### BusTrACEr™
**Data Bus Analyzer and Monitor Software**
- Generate or monitor live MIL-STD-1553 data without writing any code
- Saves time and reduces development costs
- Program in minutes with one-click ANSI 'C' application source code generation
- Rapid creation and setup of custom applications

Model: BU-69066S0-XX0

### LabVIEW® Support Package
- Simple interface for quick startup and easy programming
- Access real-time 1553/429 data using LabVIEW
- Easily integrate data from different types of instruments and sensors
- Create custom user interface from scratch or by modifying samples
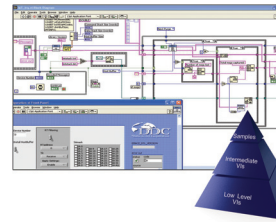
Model: BU-69093S0-XX0

### dataSIMS
**Avionics Data Bus Test and Analysis Software**
- Accelerates development and deployment
- Eliminates cost of learning and maintaining separate software programs
- Easy-to-use and customize
- Supports all data protocols and I/O formats

Model: BU-69414DS-64VM

### Commercial Avionics Utilities
**Data Bus Analyzer and Data Loader Software**
- Graphical ARINC 429 data bus analysis and simulation
- Advanced filtering, message scheduling, and triggering
- Graphical ARINC 615 data loader
- Software interface to load data to and from airborne computers

Model: DD-42999S0-XX0

For ordering assistance and technical support,
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Visit:    www.ddc-web.com

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